



### Interdisciplinary Environmental Clinic

June 18, 2015

Ms. Rebecca Weber  
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US EPA Region 7  
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Lenexa, KS 66219  
**Via email to** [weber.rebecca@epa.gov](mailto:weber.rebecca@epa.gov)

Re: Jefferson County Sulfur Dioxide Nonattainment State  
Implementation Plan Completeness Review

Dear Ms. Weber:

On behalf of the Sierra Club, we urge EPA to determine that the Jefferson County Sulfur Dioxide Nonattainment Area State Implementation Plan (“Jefferson County SIP”)<sup>1</sup> is incomplete pursuant to 40 C.F.R. Part 51, Appendix V.

A complete SIP for an area designated as nonattainment for the primary 2010 National Ambient Air Quality Standard (“NAAQS”) for sulfur dioxide (“SO<sub>2</sub>”) must contain an attainment demonstration showing that the entire designated nonattainment area will comply with the NAAQS by October 2018, based on permanent and enforceable emission limits (“allowable emissions”). The Jefferson County SIP lacks the key elements of an attainment demonstration because it does not show attainment for the entire nonattainment area based on allowable emissions. EPA notified the Missouri Department of Natural Resources (“MDNR”) of the SIP’s fundamental shortcomings in its comments on the SIP; however, MDNR failed to remedy those shortcomings before submitting the plan to EPA for approval. Because the Jefferson County SIP lacks the basic elements of a required attainment demonstration, we urge EPA to declare the SIP incomplete during its 60-day completeness review.

**I. A Complete SIP Must Contain an Attainment Demonstration for the Entire Nonattainment Area Based Upon Modeling Using Allowable Emissions.**

After EPA designates a nonattainment area, the State must prepare a SIP to show how that nonattainment area, in its entirety, will achieve the NAAQS by the relevant deadline.<sup>2</sup> The SIP

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<sup>1</sup> Missouri State Implementation Plan Revision: Nonattainment Area Plan for the 2010 1-Hour Sulfur Dioxide National Ambient Air Quality Standard – Jefferson County Sulfur Dioxide Nonattainment Area.

<sup>2</sup> Clean Air Act (“CAA”) § 110(a), 42 U.S.C. § 7410(a); CAA § 172(c), 42 U.S.C. § 7502(c); and CAA §§ 191-92, 42 U.S.C. §§ 7514-14a.

must include, among other provisions, “enforceable emission limitations, and such other control measures ... as may be necessary or appropriate to provide for attainment of such standard *in such [nonattainment] area* by the applicable attainment date.”<sup>3</sup> A SIP is incomplete unless it includes these required elements.<sup>4</sup>

EPA’s SO<sub>2</sub> nonattainment SIP guidance emphasizes the Clean Air Act’s requirement that a nonattainment SIP must demonstrate attainment throughout the designated nonattainment area:

- The attainment demonstration should also ensure that the area will attain the 2010 SO<sub>2</sub> NAAQS with a 3 year design value of no greater than 75 ppb *throughout the entire nonattainment area* by the statutory attainment date, through the adoption and implementation, at a minimum, of emission control measures representing RACM/RACT.<sup>5</sup>
- [F]or attainment demonstrations for the 2010 SO<sub>2</sub> NAAQS, the air agency should demonstrate future attainment and maintenance of the NAAQS *in the entire area designated as nonattainment (i.e., not just at the violating monitor)* by using air quality dispersion modeling to show that the mix of sources and enforceable emission rates in an identified area will not lead to a violation of the SO<sub>2</sub> NAAQS.<sup>6</sup>
- The modeling for the attainment demonstration should include results for a suitable network of receptors representing *the entire nonattainment area*, and should exhibit modeling showing attainment of the NAAQS *for the entire area* by the statutory deadline.<sup>7</sup>

EPA regulations require using maximum allowable emissions or federally enforceable permit limits as model input data for stationary sources to evaluate SIP control strategies for achieving NAAQS compliance.<sup>8</sup> EPA highlights these requirements in the SO<sub>2</sub> nonattainment SIP guidance:

- The attainment plan for the affected area should also demonstrate, through the use of air quality dispersion modeling, *using allowable emissions* and supplemental analyses as appropriate, that the area will attain the standard by its attainment date.<sup>9</sup>
- For a short term (i.e., 1-hour) standard, the EPA believes that dispersion modeling, *using allowable emissions* and addressing stationary sources in the affected area (and in some cases those sources located outside the nonattainment area which may affect attainment in the area) is technically appropriate, efficient and effective in

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<sup>3</sup> CAA § 172(c)(6), 42 U.S.C. § 7502(c)(6) (emphasis added).

<sup>4</sup> 40 C.F.R. Part 51 App. V (2.2)(e) (requiring a complete SIP to contain modeling information to support the proposed revision, including required input data). *See generally* 40 C.F.R. Part 51 App. V.

<sup>5</sup> EPA, Guidance for 1-Hour SO<sub>2</sub> Nonattainment Area SIP Submissions (“EPA Guidance for SO<sub>2</sub> Nonattainment SIP”), at 10 (Apr. 2014).

<sup>6</sup> *Id.* at 11-12 (emphasis added).

<sup>7</sup> *Id.* at 12 (emphasis added).

<sup>8</sup> 40 C.F.R. Part 51 App. W, Table 8-1.

<sup>9</sup> EPA Guidance for SO<sub>2</sub> Nonattainment SIP, at 9-10.

demonstrating attainment in nonattainment areas because it takes into consideration combinations of meteorological and emission source operating conditions that can contribute to peak ground-level concentrations of SO<sub>2</sub>.<sup>10</sup>

- Consistent with past SO<sub>2</sub> modeling guidance ... and regulatory modeling for other programs ... dispersion modeling for the purposes of SIP development should be based on the use of *maximum allowable emission*.<sup>11</sup>

MDNR's modeling protocol for first round nonattainment areas states that it "adheres to all EPA guidance available at this time,"<sup>12</sup> including EPA's SO<sub>2</sub> nonattainment SIP guidance, and indicates that the department's modeling to support SIP development would use allowable emissions:

- The base run model analysis will reflect current, *permanent and enforceable allowable emissions* for each SO<sub>2</sub> source to be included in the model.<sup>13</sup>
- The emission rates input into the air quality model will reflect current *permanent and enforceable emissions* for each SO<sub>2</sub> source to be included in the model.<sup>14</sup>

However, MDNR ultimately disregarded its own modeling protocol when it created the Jefferson County SIP. As discussed in the next section, the SIP does not contain an attainment demonstration showing that the entire Jefferson County nonattainment area will comply with the NAAQS by October 2018 based on allowable emissions and is therefore incomplete.

## **II. The Jefferson County SIP is Incomplete Because it Lacks an Attainment Demonstration For the Entire Nonattainment Area Based on Allowable Emissions.**

Instead of providing a single attainment demonstration for the entire Jefferson County nonattainment area based on allowable emissions, the Jefferson County SIP provides two separate modeling scenarios. The first scenario, described as the "main scenario," addresses the entire nonattainment area but impermissibly uses actual, rather than allowable, emissions.<sup>15</sup> The second scenario, described as "monitor-centric,"<sup>16</sup> uses allowable emissions, but impermissibly focuses on a tiny area comprising only 0.4 percent of the nonattainment area instead of the entire area.

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<sup>10</sup> *Id.* at 12 (emphasis added).

<sup>11</sup> *Id.* at A-10 (emphasis added).

<sup>12</sup> DNR, 2010 1-Hour Sulfur Dioxide National Ambient Air Quality Standard Modeling and Analysis Protocol for First Round nonattainment Areas (June 30, 2014) at 2.

<sup>13</sup> *Id.* at 3 (emphasis added).

<sup>14</sup> *Id.* at 4 (emphasis added).

<sup>15</sup> SIP § 5.1.A at 30-32.

<sup>16</sup> The SIP contains three variations of the "monitor-centric" attainment demonstration. This letter discusses the three monitor-centric scenarios collectively because they all reflect the same critical flaw in focusing exclusively on 0.4% of the nonattainment area rather than the entire nonattainment area.

In its written comments on the draft SIP, EPA was highly critical of MDNR's modeling scenarios because neither contains both required elements of an attainment demonstration.

Of key concern is that the current analysis performed and submitted by MDNR does not appear to ensure that the *entire area* within the nonattainment area boundary will attain the standard.<sup>17</sup>

Regarding the main scenario, which uses actual rather than allowable emissions, EPA stated:

- Because MDNR has not established emissions limits in the draft plan that correspond with the actual hourly rates used in the modeling in the draft plan, the AmerenUE facilities *could revert back to their historical operations and increase emissions of SO<sub>2</sub>*.<sup>18</sup>
- The actual hourly rates used in modeling for demonstrating attainment were always lower than the limits imposed by the Consent Agreement and thus create the potential for NAAQS violations (e.g. *the modeling does not demonstrate the NAAQS is protected* as the rates modeled were always lower than that being allowed).<sup>19</sup>
- MDNR modeled the two Rush Island units, which are located within the nonattainment area, using actual hourly emissions and not allowable emissions as specifically addressed in the April 22, 2014 EPA Guidance for 1-hour SO<sub>2</sub> nonattainment area SIP submissions.<sup>20</sup>
- [C]ertain sources outside the nonattainment area are also modeled at their actual rates ... 40 CFR Part 51 Appendix W, table 8.1 requires sources, either within or outside the nonattainment area that are modeling a significant concentration gradient in the nonattainment area being analyzed to model at their allowable emission rate for purposes of a NAAQS demonstration. To properly support the attainment plan, EPA believes that MDNR should model these plants at their respective PSD allowable emission rates or provide sufficient justification ... in order to support varying from this requirement.<sup>21</sup>

Regarding the monitor-centric scenario, which focuses on a tiny area comprising only 0.4 percent of the nonattainment area, EPA stated:

- MDNR conducted a 'monitor centric' analysis to resolve SO<sub>2</sub> exceedances in the Jefferson County nonattainment area that only analyzes impacts at those specific

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<sup>17</sup> EPA Region 7, Letter to MDNR Commenting on Draft Jefferson County Nonattainment SIP, May 7, 2015 ("EPA Comment Letter") at 1 (emphasis added).

<sup>18</sup> *Id.* at 4 (emphasis added).

<sup>19</sup> *Id.* at 6 (emphasis added). These comments represent only a few of EPA's stated concerns that apply to both the incompleteness and the inadequacy of the Jefferson County SIP. Because this letter focuses solely on incomplete concerns, we reserve comments about the SIP's inadequacy at this time.

<sup>20</sup> *Id.* at 5.

<sup>21</sup> *Id.* at 8.

receptors, but *does not demonstrate that receptors within the remaining nonattainment area will attain the standard.*<sup>22</sup>

- Section 5.1b, MDNR performed “a monitor centric run” that uses allowable emissions for all facilities including the EGU sources ... The approach used in this section would be acceptable if all nonattainment area receptors were included in the analysis, and all receptors were shown to comply with the NAAQS. However ... the majority of the nonattainment area receptors are not analyzed, and this approach clearly does not comply with EPA modeling guidance for nonattainment areas.<sup>23</sup>

These statements indicate that the Jefferson County SIP is incomplete because it lacks an attainment demonstration for the entire nonattainment area based on allowable emissions. MDNR failed to correct the SIP’s fatal shortcomings after receiving EPA’s comments on the draft SIP.<sup>24</sup> Thus, while the SIP proclaims that the main scenario “demonstrates the entire area is currently in compliance” with the 1-hour SO<sub>2</sub> standard – which is incorrect<sup>25</sup> but beside the point for purposes of the SIP’s completeness – it does not demonstrate that the area will achieve the NAAQS by October 2018 because it relies on actual emissions that could lawfully increase before then. Furthermore, the monitor-centric scenario – which properly relies on allowable emissions – only demonstrates compliance in 0.4 percent of the nonattainment area and ignores the remaining 99.6 percent of the area.

### **III. Simply Implying the Existence of an “Attainment Demonstration” is Not Enough to Make a SIP Submission Complete.**

While the SIP lacks a section entitled Attainment Demonstration, section 5.0 “Modeling Scenarios” is apparently designed to serve that function. Regardless of labels, the SIP lacks a demonstration that, based on allowable emissions, the entire nonattainment area will achieve the 1-hour SO<sub>2</sub> NAAQS by the October 2018 deadline.

The Jefferson County SIP must show attainment for the entire nonattainment area by October 2018 using allowable emissions limits.<sup>26</sup> Therefore, it is to both MDNR’s and EPA’s advantage

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<sup>22</sup> *Id.* at 3-4 (emphasis added).

<sup>23</sup> *Id.* at 4.

<sup>24</sup> See DIV. OF ENVTL. QUALITY AIR POLLUTION CONTROL PROGRAM, MO. DEP’T OF NATURAL RES., COMMENTS AND RESPONSES ON PROPOSED REVISION TO MISSOURI STATE IMPLEMENTATION PLAN – NONATTAINMENT AREA PLAN FOR THE 2010 1-HOUR SULFUR DIOXIDE NATIONAL AMBIENT AIR QUALITY STANDARD – JEFFERSON COUNTY SULFUR DIOXIDE NONATTAINMENT AREA (“MDNR COMMENTS AND RESPONSES”), at 3, 9 (2015). Instead, MDNR attempted to justify its disregard of EPA’s SO<sub>2</sub> nonattainment SIP guidance by repeatedly referring to it as “nonbinding,” while inexplicably relying instead on EPA guidance for different NAAQS pollutants (ozone and PM<sub>2.5</sub>). *Id.* at 1.

<sup>25</sup> SIP § 5.1.A at 35. There are numerous technical concerns regarding the SIP’s use of actual emissions, including its misplaced reliance on EPA’s Technical Assistance Document for modeling related to area designations to justify the use of emissions data from different time periods than meteorological data, and its use of variable rate emissions data with other stack parameters remaining fixed. However, because this letter focuses on the SIP’s incompleteness, and it is impermissible to rely on actual emissions to support an attainment demonstration, these and other potential concerns are not discussed here.

<sup>26</sup> See CAA § 172(c)(6), 42 U.S.C. § 7502(c)(6); 40 C.F.R. Part 51 App. V; EPA Guidance for SO<sub>2</sub> Nonattainment SIP, at 9-12; MDNR Protocol, at 3-4.

for EPA to reject the SIP at the completeness stage so EPA's time is not wasted reviewing a SIP submittal which is facially incomplete and thus inherently inadequate. Doing so furthers the policy objectives of having a completeness review:

- Prompt return of SIP submittals that are inherently inadequate for review;
- Objective and consistent application of objective, understandable screening criteria; and
- Reduction of the overall time and resources expended by both State or local agencies and EPA in the preparation and review of SIP submittals.<sup>27</sup>

Because the Jefferson County SIP clearly lacks the necessary elements of an attainment demonstration, it is incomplete, and EPA should not waste its time reviewing it beyond the completeness stage. EPA should reject the SIP as incomplete during its 60-day completeness review.

### **Conclusion**

On behalf of the Sierra Club, we urge EPA to determine that the Jefferson County SIP is incomplete because it lacks an attainment demonstration in that it does not even purport to demonstrate, using allowable emission limits, that the entire nonattainment area will achieve the 1-hour SO<sub>2</sub> NAAQS by the October 2018 deadline.

Sincerely yours,



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<sup>27</sup> EPA, SIP Processing Manual at Chapter 2, available at <https://cfpub.epa.gov/oarwebadmin/sipman/sipman/mChapOut.cfm?chap=2&i=0&MenuID=2435> (last visited June 16, 2015).